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ABSTRACT

Adolescents contribute nearly 20% of all births in the United States; half of these are unplanned or unwanted. Negative health and socioeconomic consequences are associated with adolescent childbearing, and teenagers account for nearly one-third of all reported therapeutic abortions. Failure to use other than traditional research methods to study antecedents and consequences of teenage pregnancy has resulted in inadequate information for public policy or program development. Age and race comparisons have been made in studies of adolescent sexual behavior; research data point to an increasing number of sexually active adolescents, most of whom do not use contraception regularly or effectively. Studies of social epidemiology of adolescent pregnancies lack quality data from males or couples; reliable data on teenage abortions are also scarce. Productive research by psychologists could be conducted in the areas of developmental issues, antecedents and consequences of adolescent childbearing, and evaluations of programs offering sex education, contraception, abortion, or parenting skills. There is a need for collaborative research efforts by social demographers, epidemiologists, psychologists, and others who could help find viable intervention strategies to reduce unwanted teenage pregnancies. (Author/NRB)

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ADOLESCENT PREGNANCY: THE UNMET NEED FOR PSYCHOLOGICAL RESEARCH

A symposium presented at the 26th annual meeting of the Southeastern Psychological Association, March 29, 1980, Washington, D.C.

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Introduction

The United States is said to lack a population policy, and controversy surrounding the issue of abortion illustrates the difficulty of obtaining concensus on population issues in a hetrogenous society. But there does appear to be general agreement that couples should have as much choice as possible about the size of their families and, by extension, should have access to the means of controlling births. This, in essence, is the rationale for the Family Planning and Population Act of 1970.

Despite the widespread availability of modern, highly effective birth control methods following passage of that Act, unwanted or unplanned pregnancies continue to occur. The group at possibly the greatest risk for this event is unmarried women under 20. This group, generally called adolescents, contributes nearly 20 percent of all births in the United States. Over half of these are unplanned or unwanted (CDC, 1978a); short- and long-term negative health and socioeconomic consequences are associated with teenage childbearing; and teenagers account for nearly one-third of all therapeutic abortions reported (CDC, 1977, 1978b, 1978c). For all these reasons, adolescent pregnancy was identified as a major public health problem (Baldwin, 1976). When remedies for this problem were sought, the inadequacies of existing information became apparent.

This symposium is one in a series presented by the authors in an effort to encourage collaborative research efforts by social demographers, epidemiologists, psychologists, and others whose perspectives and training would contribute to the effort to find viable intervention strategies to reduce unwanted teenage pregnancies. In organizing this symposium, we wanted to accomplish three things: to provide an overview of factors antecedent or consequent to adolescent pregnancy (social epidemiology); to identify research issues that could fruitfully be addressed by psychologists; and to describe potential research methods, sites, and sources of support. Each of these goals is addressed, in order, in this paper. Dr. Hale is responsible for the first section, titled "The Social Epidemiology of Adolescent Pregnancy". In it, data are given to illustrate the negative consequences of teenage childbearing for the women and society, and the characteristic epidemiology of sexual and contraceptive behaviors of teenagers is described. Dr. Freese prepared the second section, "Adolescent Pregnancy; an opportunity for research". Here three topics are identified for which important theoretical and applied research is needed. The third section, describing research designs, sites, and sources of support for psychological studies on questions relating to teenage pregnancy, was written by Dr. Hale. Dr. Lee Lee Doyle, University of Arkansas Medical Center, was unable to participate in the symposium as originally scheduled. However, her contribution to the content of the third section is gratefully acknowledged.

Social Epidemiology of Adolescent Pregnancy

There are two focal points from which to assess the epidemiology of adolescent pregnancy: antecedent factors and consequences. Regardless of which set of factors is examined, the methodology of nearly all major studies to date has been derived from that of traditional demography. When the dependent variables are sexual and contraceptive knowledge, attitudes, and practices, female respondents have been interviewed. In assessing consequences, large data sets have been subjected to secondary analyses. As a result, good quality data from large samples of males or couples is not available.[1] Only recently have data appeared examining the consequences of adolescent parenting for their children (Philliber and Graham, 1979; Baldwin and Cain, 1980). These methodological limitations should be borne in mind in reviewing the current understanding about social epidemiology of adolescent pregnancies.

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[1] Only two studies of teenage males have been reported. In one 492 male high school students age 14-18 living a northeastern urban area were studied in 1974 (Finkel and Finkel, 1975). Nearly 70 percent were sexually experienced, and sharp differences were found between white, black and Hispanic respondents: about 48 percent of white males were sexually experienced compared to about 75 percent of Hispanic youths, and about 84 percent of black youths. Initial sexual experience occurred at 12 or earlier for over a third of all respondents, with the earlier-observed pattern of differences among white, Hispanics, and blacks. A second study of 325 16-and-17-year old white and non-white males in three United States communities (southern, middle Atlantic, northwestern) conducted in 1976 found that 67 percent had had sexual intercourse at least once (Cvetkovitch and Grote, 1978). This proportion is similar to that reported by the 1974 study.

Adolescent Pregnancy

Because of reporting problems, few reliable data are available on abortion among teenagers. This group does have about a third of all abortions reported (CDC, 1978a), a proportion which is virtually unchanged from year to year. One investigator has used currently available data to estimate that, all other things remaining unchanged, 42 percent of the teenage women who were 14 years old in 1978 will have been pregnant before their 20th birthdays (Tietse, 1979).

Data from 1977, the most recent year for which final figures are available, show that the incidence of pregnancies carried to term by United States females age 10-19 was 54.9 per 1,000. For whites, the rate was 45.2; for nonwhites, it was 112.0. If prevalence for this age group is defined as the percentage of all births represented by births to women under 20, the overall figure for the United States is 17.2 percent, 14.7 percent of white births and 27.3 percent of nonwhite births (NCHS, 1979). These figures are the highest in the industrialized world; for instance, in Japan, teenagers contribute only about 1 percent of all births (DHEW, 1979).

Health Effects

By definition, mothers under 18 are high risk. Yet they are over-represented among those seeking care late in pregnancy (i.e., second or third trimester) or receiving no care at all (NCHS, 1979). This fact causes special concern because health effects experienced by these mothers include complications of

pregnancy and delivery, shortened birth intervals and, hence, additional high-risk pregnancies, and emotional disruption. (Claman and Bell, 1974; Ballard and Gold, 1971; Grant and Heald, 1972; Jovanic, 1972; Menken, 1972; Hogue, 1978). Evidence for the last effect must be treated with caution, but there are suggestions that suicide is attempted more often than expected among adolescent mothers, although it is not possible to tell whether this association is causal or reflects underlying personality dynamics. Finally, repeated epidemiologic studies have linked teenage childbearing with emergence of cervical cancer later in life. (Rotkin, 1967; Coppleson, 1969; Russell, 1974).

Infants born to adolescent mothers experience negative health effects, too. They tend to weigh less than babies born to older mothers, even controlling for gestational age. Because low birth weight is associated with increased morbidity and mortality and with many developmental disorders, infants of mothers under 20 are considered at high risk for these conditions (Erhardt, Joshi, Nelson, Kroll, and Weiner, 1964; Goldberg, 1967; Eaves, Nuttall, Klonoff, and Dunn, 1970; Weiner, 1970; Philliber and Graham, 1979).

Socioeconomic Effects

Teenage pregnancy has profound effects on subsequent quality of life. In general, teenage women who bear children have less educational attainment and larger families than women who delay childbearing until they are at least 20 (Bumpass, Rindfuss, and Janosik, 1978; Trussell and Menken, 1978). These outcomes appear

to be directly linked to marginal labor force participation by the very young mother (Coombs and Freedman, 1970; Cord and Wise, 1978; Moore, 1978).

If the pregnant teenager marries (and an estimated 60 percent of teenage brides are pregnant at marriage) her chances for completing her education are reduced. Marriage under these circumstances accelerates two major role transitions, to wife and to mother. This acceleration may help explain why the marriages of pregnant teenagers are three to four times more likely to end in divorce than those of brides in their 20's (Ross and Sawhill, 1975; Furstenberg, 1976; Moore and Waite, 1977). Unless her education was completed prior to marriage, the teenager who was pregnant at marriage typically experiences a marginal economic existence characterized by unemployment and underemployment and periodic welfare dependency (Moore and Caldwell, 1978).

The little available evidence suggests the putative father who marries before he completes school suffers some economic disadvantage. But by age 29 has usually regained a position comparable to that of his age peers, probably because the almost inevitable disruption of his marriage frees him to complete his interrupted educational career (Card and Wise, 1978).

Sexual Behavior

Sexual behavior of unmarried teenage females 15 to 19 years old has been studied in two national probability sample surveys, the first conducted in 1971 and the second in 1976 (Zelnik and

Kantner, 1972, 1977). According to the 1976 data, by age 15, 18 percent of all respondents were sexually experienced; the percentages rise each year, until, by age 19, 55 percent are sexually experienced. Racial differences are pronounced: by age 15, about 38 percent of blacks and 14 percent of whites are experienced; at 19, about 84 percent of blacks and 49 percent of whites are experienced.

There are suggestions this gap between sexual behavior of white and black females is narrowing. When these data are compared to those obtained in 1971, it can be seen that only 15-year olds of both races have increased their initiation of sexual activity equally. At each additional year of age, the increase for whites has been about three times greater than for blacks. For example, between 1971 and 1976, there was about a 16 percent increase in sexual activity among 17-year old black women, and about a two-thirds increase among white 17-year olds.

In general, sexual activity among adolescent females is sporadic and episodic. The 1976 data show most active females had intercourse two or less times in the month preceding interview, although about a quarter of white females 18-19 years old reported six or more acts. These data are virtually unchanged from those in the 1971 study. For age-race groupings other than 18-19 year old whites, most reported no intercourse in the preceeding month. These studies also show that, although more than half of all respondents report only one sexual partner ever, the proportion reporting more than one partner ever rose between 1971 and 1976.

What emerges from these data is a picture of increasing numbers of sexually active adolescents having intercourse with about the same overall frequency as in 1971, but with more partners. There is also a clear trend among white females to initiate sexual activity at earlier ages, with the result that the longstanding difference in age at first sexual intercourse between black and white teenagers is diminishing.

Contraceptive Behavior

Available data on adolescent women suggest that married teenage women contracept as regularly and as effectively as non-teenage married women, but this is not true for unmarried, sexually active teenage women (Jones and Placek, 1980). Overall, the proportion of unmarried teenagers who never use contraception decreases from 38 percent of 15-year olds to 15 percent of 19-year olds (Zelnik and Kantner, 1977, 1978a, 1978b). However, the proportion <u>always</u> contracepting scarely changes: 30 percent of 15-year olds and 31 percent of 19-year olds. Few sexually active teenage females contracept regularly, and this tendency is more pronounced among blacks than whites. But when those who use contraception sometimes or always are questioned further, other differences emerge. It appears that, although blacks contracept less often than whites, when they do they choose far more effective methods.

Teenage females generally obtain contraceptives from family planning clinics. However, these data vary with age: the younger the girl, the less likely she is to use clinics and the more

likely she is to rely on condoms or folk methods of contraception. Interestingly, the 1971 study of females found that the drugstore was a major source of information and contraceptive supplies, but the 1976 study documented increased reliance on clinics and private practitioners. This shift parallels the shift toward use of modern methods, a shift most apparent among girls over 15, and among blacks. Although figures on which to base reliable estimates are not available, it is generally estimated that the attrition rate for teenagers in family planning programs is between one-third and two-thirds (Alan Guttmacher Institute, 1978).

Unanswered Questions

Numerous studies have demonstrated relationships between two demographic variables — age and race — and two important aspects of contraceptive behavior: lag time between first sexual intercourse and use of contraception, and the probability of ever contracepting. Sexually active females younger than 16 use contraception sporadically, if at all, and use less effective methods. Those 16 and older are more consistent users of contraception and are more likely to choose effective methods. In general, the younger the adolescent at the time she first has intercourse, the greater the probability of her never contracepting although that probability is greater for whites than blacks (Zelnik and Kantner, 1977). Adolescent women are usually sexually active for some time before thay use contraception (Goldsmith, Gabrielson, Gabrielson, Matthews, and Potts, 1972;

Jekel, Klerman, and Bancroft, 1973; CvetKovich, Grote, Bjorseth, and Sarkissian, 1975; Zelnik and Kantner, 1978b; Doyle, Selman, and Neshud, 1980). The younger the girl, the greater that lag time. However, black women generally have a shorter lag time than do white women.

Three hypotheses can be offered to explain the differences by age, although not the racial differences. First are legal limitations. Among the 50 states and the District of Columbia, only 23 states and the District allow persons under 18 access to contraceptive information without parental consent. Ironically, in nine states, a female under 18 may have an abortion without parental consent, but cannot obtain contraception. Second, the shift in contraceptive use has been toward modern methods, which must be prescribed. These prescriptions are the end product of a behavioral sequence that begins with a decision to seek contraception, a decision that in itself requires maturity, self-acceptance, and sufficient knowledge of available resources to locate the entry points in the family planning process. Few adolescents under 16 possess the abilities needed to gain access to the system. Third, sex experience among young adolescents tends to be sporadic and episodic. Modern contraceptive methods are designed for females with a constant rate of sexual activity and are particularly unsuitable for use by young adolescents. Testing these last two hypotheses would require methods and tools based on psychological models. The need for greater involvement of psychologists in research on adolescent fertility behavior is articulated in the next section by Dr. Freese.

Adolescent Pregnancy: An Opportunity for Psychological Research

Most of the research on adolescent pregnancy done to date has been survey research. The demographic approach taken is one that most psychologists find very dissatisfying. It tells us very little about features of the process that results in pregnancy: characteristics of the adolescent female, her home environment, and peer pressures that may influence her decisions about sexual activity and contraception. Our understanding of issues surrounding adolescent pregnancy would be greater if there were more research involvement on the topic by psychologists.

I see possibilities for psychologists to do research in three general areas related to adolescent pregnancy: (1) developmental issues of adolescence, (2) antecedents and consequences of adolescent childbearing, and (3) evaluation of programs offering sex education, contraception, abortion, or parenting skills to adolescents. These may not be the only areas in which productive research could be done, but they are all areas in which there is a clear need for work by psychologists.

Developmental Issues of Adolescence

We have a very poor understanding of adolescent self-concept and of how sexuality becomes a part of an individual's self-concept. Recent work (e.g., Chassin, Light and Young, 1979; Griffin, Young and Chassin, 1979) suggests that it is too simple to think of an adolescent as having a single self-concept. Instead, it

appears that an individual's concept of self may be multi-faceted, with different facets developing at different times and at different rates. In order to understand adolescent pregnancy, we need much more thorough study of how and when individuals begin to think of themselves as sexual beings and how that acknowledgement of sexuality becomes integrated into their views of themselves.

We also have need of more information about cognitive processes in adolescence. Adolescence is thought of as a time of transition from concrete to abstract reasoning. However, it has become clear to me in my clinical work that many adolescents are not capable of abstract reasoning. Without it, an adolescent has great difficulty relating missed menstural periods to the possibility of pregnancy or relating a positive pregnancy test to the idea of giving birth to a child. I believe that practitioners involved in contraception, abortion, and childbirth have, in general, provided information about these matters in ways that are difficult for adolescents to understand. Basic research in cognitive processes of adolescence and application of our current knowledge of that topic to programs providing information about sexual matters to adolescents would be very helpful.

Finally, we know that adolescence is a time of changing social relationships. The adolescent becomes increasingly independent of the family of origin and much more heavily involved in close relationships with peers. We know relatively little about the processes by which independence is achieved and early

intimate relationships are formed. We know even less about the effects of pregnancy on these processes. It seems likely that childbearing affects both processes substantially, because the social situation of an adolescent parent seems very different from the social situation of peers not involved in childrearing. This could be another fruitful topic for research.

Antecedents and Consequences of Adolescent Childbearing

There are a variety of hypotheses in the psychiatric literature about the antecedents of unprotected sexual activity, decisions to keep rather than to terminate a pregnancy, and adjustment during and after pregnancy. Particularly with the current high incidence of teenage childbearing, it seems important to look for antecedent attitudes that might point to more effective interventions to postpone pregnancy. It would also be useful to be able to predict which teenage parents are most likely to have difficulty meeting their children's needs, so that they can be targeted for supportive interventions.

Current hypotheses about antecedents and consequences of adolescent childbearing often involve psychological measures. For example, recently Dr. Hale and I have proposed to study some ideas that have been in the clinical folklore for some time: whether pregnant adolescents are more traditional in their views of appropriate gender roles than other adolescents, and whether pregnant adolescents have had more stressful lives in their

families of origin which make pregnancy an attractive form of escape. Other investigators have wondered about the psychological consequences for children and parents of the child having been unwanted and unplanned (e.g., Pohlman, 1967; Beck, 1970).

In order for such hypotheses to be investigated, adequate psychological measures are needed. For the most part, they have not been developed. Investigators typically have used measures that were developed for adult populations, or measures for which there are not good norms for any age group.

One issue is that the experiences of adolescents are sufficiently different in content from the experiences of most adults that considerable revision is needed before some measures are useable. For example, pilot testing of the Life Experiences Survey (Sarason, Johnson, and Siegel, 1978), a measure of life changes, indicated that many events considered important to adolescence (e.g., falling in love, having sex for the first time) were not included, while other items on the survey (e.g., borrowing more than $10,000, marital reconciliation with mate) could probably be omitted for studies with adolescent subjects. It has taken us months to revise this measure with adolescents in mind, and collection of data from a large normative sample must still be obtained before the revised measure is ready to be used to study adolescent childbearing. Even if revision had not been necessary, the norming process is unavoidable for most

available psychological measures. We have consistently found that adolescents' response patterns on psychological measures are quite different from the response patterns of adult normative samples.

Another issue for many available psychological measures is the level of language skills required to understand them and respond appropriately. It is often necessary to simplify measures that seem to have been simple enough for older subjects. For example, we have serious doubts that many adolescents aged 14-16 understand the adjective descriptors of Bem's (1974) Sex Role Inventory. We are currently assessing comprehension of each descriptor by subjects from that age group. For investigators who wish to examine data separately by race, as we do, there is the additional issue of whether the language of any given measure has equivalent meaning for different racial groups.

An entirely different issue in understanding the antecedent conditions and consequences of adolescent pregnancy is the need to look at adolescent male/female relationships and the impact of a pregnancy on those relationships. We understand very little about the assumptions of the couple about their relationship prior to pregnancy, and therefore can offer few suggestions to adolescents, or to their parents and health professionals who try to help them make mature decisions after pregnancy occurs. We do know that when adolescents marry in response to a pregnancy there is increased likelihood of divorce (Furstenberg, 1976).

There is tremendous need to involve male partners in research on adolescent pregnancy, and to measure the consequences of childbearing for fathers as well as for mothers and children.

Program Evaluation

Special reproductive health care programs for adolescents are currently in vogue. Many of the programs providing contraceptive counseling and products, abortion, and instruction in parenting have very limited evaluation components or no evaluation at all.

From a psychologist's point of view, the variables measured are not always the most salient ones. For example, Doyle, Selman and Nestrud (1980) have pointed out that in many studies the only measure of effectiveness of contraception programs is an adolescent's return visit to the clinic. If the client returns, contraception is regarded as effective. Usually, no information is collected about the client's understanding of the contraceptive method being used or of the regularity of contraception. Similarly, the effectiveness of programs for parents is most often evaluated on the basis of variables such as the child's weight gain and completion of infant immunizations (Philliber and Graham, 1979). A few investigators have gone beyond these variables, and have attempted to measure the quality of the parent-infant relationship or the parents' development into adulthood (e.g., Nuckolls, Cassel, and Kaplan, 1972; Barnard

and Gortner, 1978). For these types of variables to be included in program evaluation studies, behavioral scientists must become involved in these studies. I believe it is a fruitful area of study for psychologists, one which lends itself to inclusion of data on some of the more basic developmental issues discussed earlier.

Summary

The traditional demographic approach has nearly run its course in the study of adolescent pregnancy. Studies are needed in which behavioral and attitudinal data are used to do a finer-grained analysis of the problem. Three areas of psychological research have been considered in this presentation: (1) developmental issues of adolescence, (2) antecedents and consequencies of adolescent childbearing, and (3) evaluation of special programs offering reproductive health services to adolescents.

The topic has much potential for interdisciplinary work and for strictly psychological studies. Funding is available for studies of this topic, making it particularly attractive. The biggest single need, in my opinion, is psychologists interested in conducting research on this topic. I hope I have convinced you to consider it as a possibility.

Research Designs and Support

The previous two presentations have described much of the research to date. Clearly the most frequently used methodologies are either secondary existing data or analyses of cross-interviews of either clinic patients or national samples. Prospective studies of adolescents, which would potentially answer important questions about sequences of events (i.e., maturation processes and contraceptive use) are almost impossible to find. Similarly, although fertility behavior is by definition dyadic, research designs focus almost exclusively on females.

For years, investigators have pointed out that traditional demographic techniques badly needed augmentation from behavioral disciplines if research on fertility-related topics were to yield results that could be the basis of programs and policies (Fawcett, 1970; Chilman, 1978; Zelnik and Kanter, 1979). Perhaps nowhere is this lack so evident as when one attempts to seek means of reducing unwanted adolescent pregnancies. Well-designed and executed demographic surveys and analyses of other large data sets have yielded reliable and valid information about the prevalence and incidence of adolescent sexual behavior and contraceptive practices, pregnancy and abortion rates, and socioeconomic consequencies of teenage childbearing. However, these demographic studies have identified <u>what</u> is happening without providing a great deal of insight into <u>why</u>. Moreover, the traditional demographic model for studying fertility uses the female as its unit

of analysis. As a result, answers are lacking to at least three important questions about adolescent childbearing: (1) the extent to which male partners determine known variations in teenage contraceptive practice; (2) the impact of adolescent pregnancy and its resolution on males; and (3) the effect of socioeconomic disadvantages consequent to teenage childbearing on the children born. Each of these questions has important implication for public policy and intervention strategies.

These inherent limitations, also limit evaluation of programs designed to "reduce teenage pregnancies", either through education, provision of contraceptives, or other means. Prospective studies are far more expensive than cross-sectional ones, and that is certainly a major reason why they are rare. But only a prospective study can isolate reasons why an estimated half of the teenagers seeking contraception drop out of existing programs. There are other, equally important program evaluation issues which one can only speculate about in the absence of prospective data. These include whether continuing to come to clinic really helps avoid unwanted pregnancies, how communications networks among teenagers may influence clinic attendence, and the significance of external factors in retention and compliance. The absence of male participation in most programs also means that we are looking at and analyzing half, at best, of the determinants of those behavior programs are intended to influence.

Yet, one of the realities governing work in this field is the scarcity of funding for programs, let alone for evaluation. However, there are groups interested in problems arising from teenage pregnancy and willing to fund both applied (i.e., program evaluation) and theoretical research. Among them are federal agencies such as the Office of Maternal and Child Health and the National Institute of Child Health and Human Development. Many foundations are good sources of funding, including the Kennedy, Kellogg, and Sunnen Foundations. Finally, some categorical programs have funds earmarked for evaluation. while seldom sufficient to support staff, the funds can cover costs of analyses. Usually, state departments of health receive these monies. In our collective experience, the departments are highly receptive to input from those of us who are interested in program evaluation. What is required, to remphasize the theme of this symposium, is cross-disciplinary collaborative work among demographers, behavioral scientists, and those responsible for delivering health care to adolescents. We all hope that this session has provided both incentive and direction for you to respond to the challenge represented by teenage pregnancies.

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